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Title : Why Do Some Fin Whales Show Tail Flukes While Diving?

Category : Behavior

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Abstract : Although fin whales (*Balaenoptera physalus*) are present ocean-wide, researchers have been studying them mainly along the western North Atlantic, the Mediterranean Sea and the Gulf of California. Fin whales rarely show flukes while diving, so are photo-identified based on chevron patterns on the back, markings along the flanks, and shape of the dorsal fin. However, during studies in the Gulf of St. Lawrence (GSL) and near Kodiak (KOD), some fin whales were re-identified over time based on tail flukes photographs (4 in GSL; 1 in KOD).

Why do some fin whales show tail flukes while diving? Humpback and sperm whales fluke so predictably that researchers use tail flukes photographs for photo-identification. When these species do not show flukes, we assume they are making shallow dives due to prey concentrations nearer the surface or are in shallow waters. However, the diving/surfacing patterns of the fluking fin whales were similar to more than 10 non-fluking fin whale groups feeding nearby, so there was no indication that the fluke-up dives were due to prey depth.

Two of the regular GSL fluking fin whales are missing one tail fluke. In those cases, we suspected that those animals lifted their tails to help dive to depth because their structure was less hydrodynamic. However, that would explain only two of the 5 cases. In the other cases, perhaps the whales are less streamlined than their conspecifics, and may need an extra kick to dive to depth.

One GSL fluking fin whale was associated with a blue whale. Was this mimicry or was it a hybrid? Fin whales have been known to hybridize with blue whales, though this has never been documented in the GSL or KOD. No biopsy was obtained of this specific individual, but the 3 fluking fin whales which were biopsied were not hybrids.